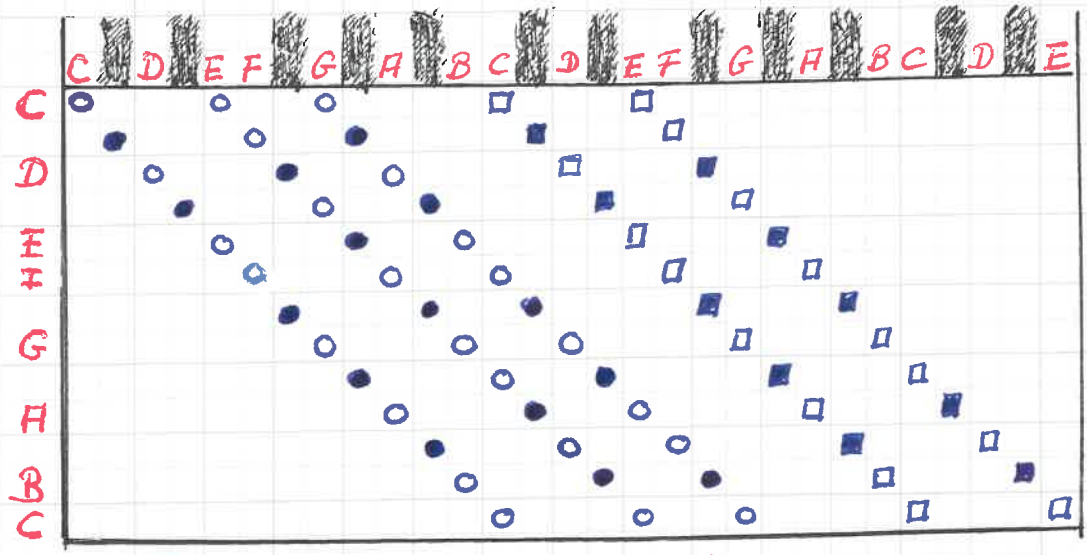
9/8/2024

• FINGERING PATTERNS/SHAPES FOR TRIADS & INVERSIONS



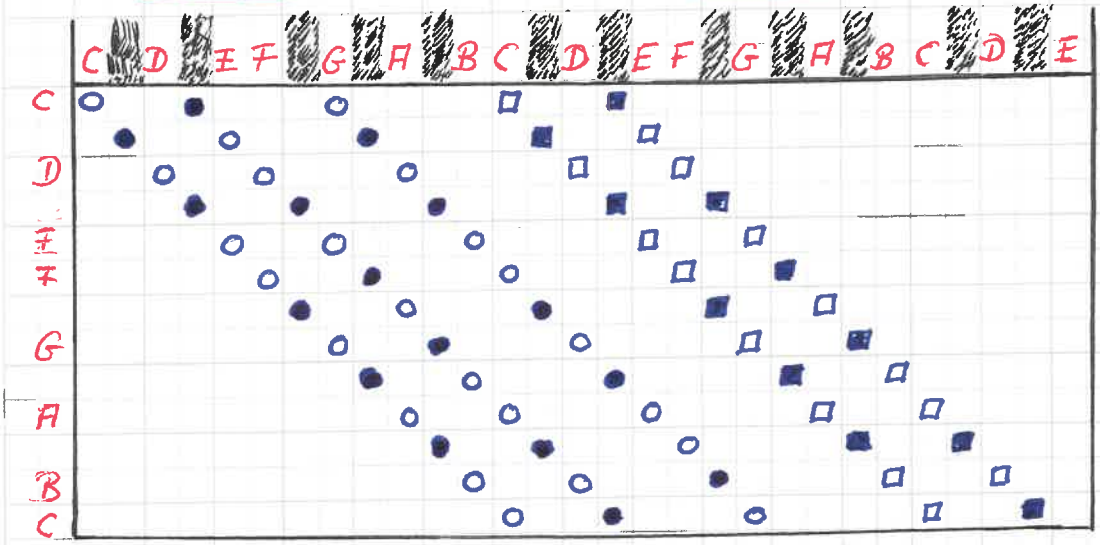
WWW - ww 1
BWB - BW 2
WBW - WB 3
BWB - BW 2
WBW - WB 3
WWW - ww 1
BBB - BB 4
WWW - ww 1
BWB - BW 2
WBW - WB 3
BWW - BW 5
WBB - WB 6
WWW - ww 1

Major Triads = M 3rd m 3rd

o, □ white keys (W) ; •, ■ black keys (B)

WWW white-white-white key pattern etc.

1, ..., 6 six types of patterns for major triads

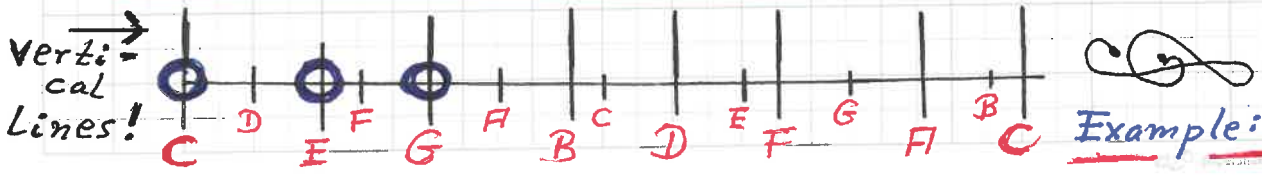


WBW - WB 3
BWB - BW 2
WWW - WW 1
BBB - BB 4
WWW - ww 1
WBW - WB 3
BWB - BW 2
WBW - WB 3
BWB - BW 2
WWW - ww 1
BBW - BB 7
WWB - ww 8
WBW - WB 3

Minor Triads = m 3rd M 3rd

7, 8 two additional types of patterns for minor triads

• "ROTATING SHEET NOTATION BY -90°":



→ Chords ①, ② and ③ (and their inversions) are most common.

→ ALL 16 (=2^4) possible patterns occur in the table, from (○,○,○,○) to (●,●,●,●).

PATTERNS/SHAPES OF 7THS

Key	① M3 m3 M3	② M3 m3 m3	m3 M3 M3	③ m3 M3 m3	m3 m3 M3	m3 m3 m3
C	○ ○ ○ ○	○ ○ ○ ●	○ ● ○ ○	○ ● ○ ●	○ ● ● ●	○ ● ● ○
	● ○ ● ○	● ○ ● ●	● ○ ● ○	● ○ ● ○	● ○ ○ ○	● ○ ○ ●
D	○ ● ○ ●	○ ● ○ ○	○ ○ ○ ●	○ ○ ○ ○	○ ○ ● ○	○ ○ ● ○
	● ○ ● ○	● ○ ● ●	● ● ● ○	● ● ● ●	● ● ○ ○	● ● ○ ○
E	○ ● ○ ●	○ ● ○ ○	○ ○ ○ ●	○ ○ ○ ○	○ ○ ● ○	○ ○ ● ●
F	○ ○ ○ ○	○ ○ ○ ●	○ ● ○ ○	○ ● ○ ●	○ ● ○ ○	○ ● ○ ●
	● ● ● ○	● ● ● ○	● ○ ● ○	● ○ ● ○	● ○ ○ ○	● ○ ○ ●
G	○ ○ ○ ●	○ ○ ○ ○	○ ● ○ ●	○ ● ○ ○	○ ● ● ○	○ ● ● ○
	● ○ ● ○	● ○ ● ●	● ○ ● ○	● ○ ● ●	● ○ ○ ●	● ○ ○ ○
A	○ ● ○ ●	○ ● ○ ○	○ ○ ○ ●	○ ○ ○ ○	○ ○ ● ○	○ ○ ● ●
	● ○ ○ ○	● ○ ○ ●	● ● ○ ○	● ● ● ●	● ● ○ ○	● ● ○ ○
B	○ ● ○ ●	○ ● ○ ○	○ ○ ● ●	○ ○ ● ○	○ ○ ○ ○	○ ○ ○ ●

→ Notation: M3 m3 M3 ≙ root + M3rd + m3rd + M3rd etc. (M=major, m=minor)

→ See handwritten notes from 8/29/2024 for detail for a 7th chord.

→ Fingering a 7th chord: L: 5-3-2-1 (or 5-4-2-1), R: 1-2-3-5 (or 1-2-4-5)

→ Use for accompaniment of a melody: Combination of "key-inherent" triads and 7th chords usable to accompany melody in a specific key.
Ex.: Key = C major ⇒ allowable chords: F-A-C-E, G-B-D, C-E-G, A-C-E, ...

9/9/2024

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PATTERNS/SHAPES OF CHORDS — VIEWED AS WHITE-BLACK SEQUENCES

9/9/2024

TRIADS

Key	Major	Rel. Minor
C	○ ○ ○	○ ● ○
	● ○ ●	● ○ ●
D	○ ● ○	○ ○ ○
	● ○ ●	● ● ●
E	○ ● ○	○ ○ ○
F	○ ○ ○	○ ● ○
	● ● ●	● ○ ●
G	○ ○ ○	○ ● ○
	● ○ ●	● ○ ●
A	○ ● ○	○ ○ ○
	● ○ ○	● ● ○
B	○ ● ●	○ ○ ●
C	○ ○ ○	○ ● ○

→ The left table summarizes the possible triad key patterns as sequences of white (○) and black (●) keys.

→ A major triad is understood as a triple (root, M3rd, m3rd), and a relative minor triad is understood as a triple (root, m3rd, M3rd).

→ The actual "physical spacing" between the keys is transparent.

→ All eight ($=2^3$) pattern possibilities occur, from (○, ○, ○) to (●, ●, ●).

Key	THIRDS Major	THIRDS Minor	FIFTHS		FOURTHS	
C	○ ○	○ ●	○ ○		○ ○	
	● ○	● ○	● ●		● ●	
D	○ ●	○ ○	○ ○		○ ○	
	● ○	● ●	● ●		● ●	
E	○ ●	○ ○	○ ○		○ ○	
F	○ ○	○ ●	○ ○		○ ●	x
	● ●	● ○	● ●		● ○	x
G	○ ○	○ ●	○ ○		○ ○	
	● ○	● ○	● ●		● ●	
A	○ ●	○ ○	○ ○		○ ○	
	● ○	● ●	● ○	x	● ●	
B	○ ●	○ ○	○ ●	x	○ ○	
C	○ ○	○ ●	○ ○		○ ○	

THIRDS, FIFTHS & FOURTHS

→ The left table shows key patterns for 2-note chords, i.e., thirds, fifths and fourths.

→ The patterns for (major and minor) thirds and fifths can be extracted from the triads.

→ The patterns for fifts and fourths are always "○○" or "●●" — except for 'x'.

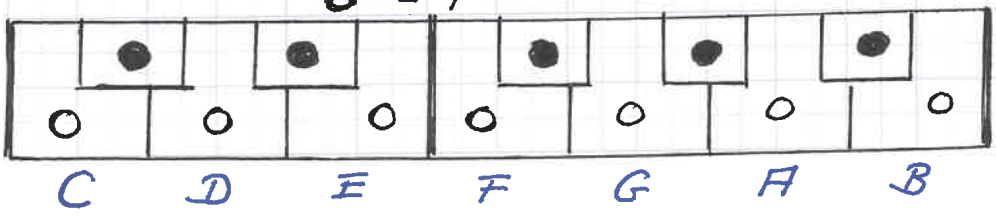
• PATTERNS OF TRIADS — FOR ALL MAJOR & MINOR CHORDS

9/13/2024

Goal:
- → Memorize the SHAPES of all triads.
- → Use BINARY PATTERNS of 'o' (WHITE) and '●' (BLACK) sequences to describe the "physical shapes" of triads on the keyboard.
- → Group / classify triads based on their patterns.

MAJOR	Pattern	minor
C, F, G	o o o (M3 m3 / m3 M3)	d, e, a
D, E, A ✱	●	c, f, g
$D^b(C^\#)$, E^b, A^b	● ●	$c^\#, f^\#, g^\#(a^b)$
$F^\#(G^b)$	● ● ●	$e^b(d^\#)$
B (C^b)	o ● ●	
B^b	● o o	
	o o ●	b
	● ● o	$b^b(a^\#)$

$8 = 2^3$ patterns



- Order of chords could also be based on circle of 5ths.
- The first column shows possible "icons" for the shapes.
- ✱ Example: A ≙ A-$C^\#$-E

→ The Left table uses C, G, D, ... for major chords and c, g, d, ... for minor chords.

→ Memorizing chord shapes eliminates the need to remember the specific notes / note names of chords.

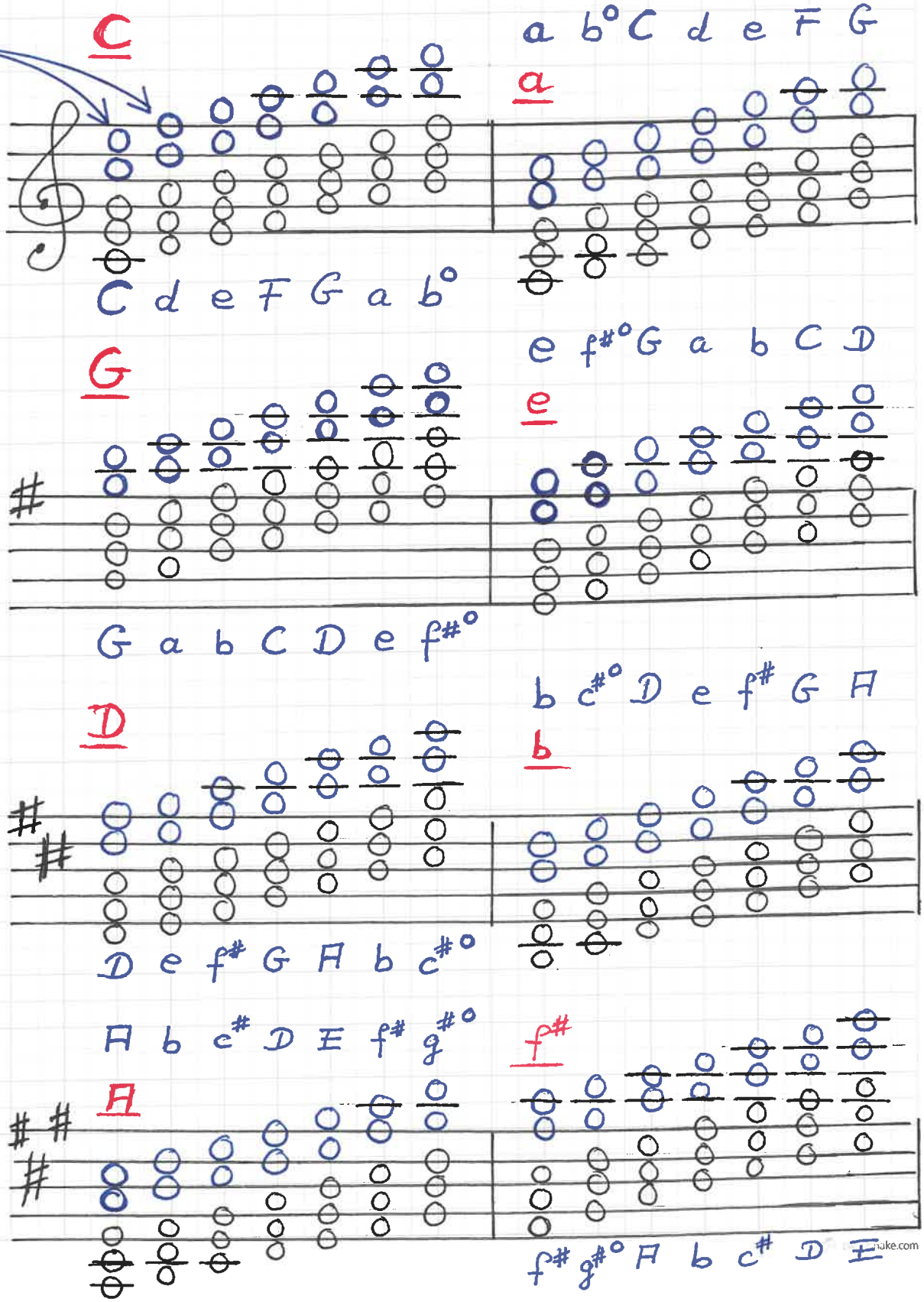
→ These patterns imply the patterns for chord inversions by rearranging the "binary masks" accordingly.

"Key-inherent" Triads for All Keys — Major & Minor Keys and Inversions

9/14/2024

Notation: C, G, ... major keys / chords
a, e, ... minor keys / chords (° dim. chord)

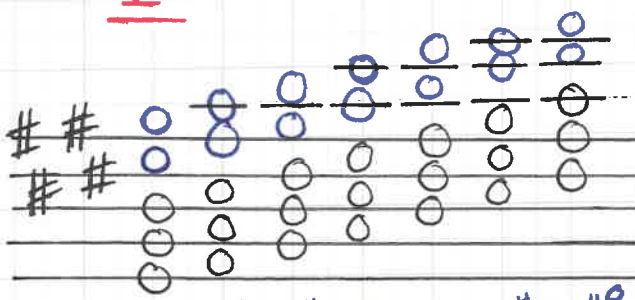
in-versions



"Key-inherent" Triads for All Keys

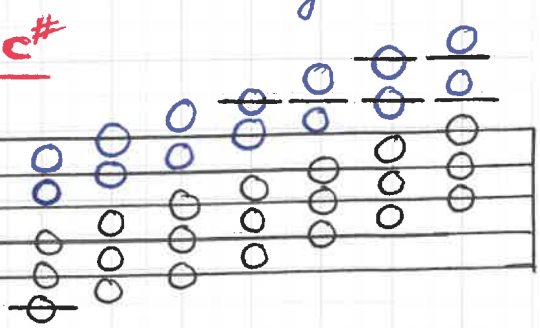
9/14/2024

E



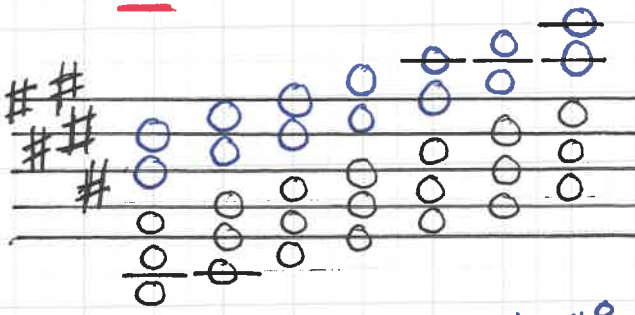
E $f^{\#}$ $g^{\#}$ A B $c^{\#}$ $d^{\#\circ}$

$c^{\#}$



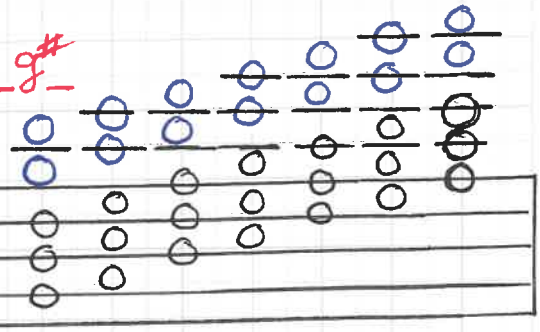
$c^{\#}$ $d^{\#\circ}$ E $f^{\#}$ $g^{\#}$ A B

B



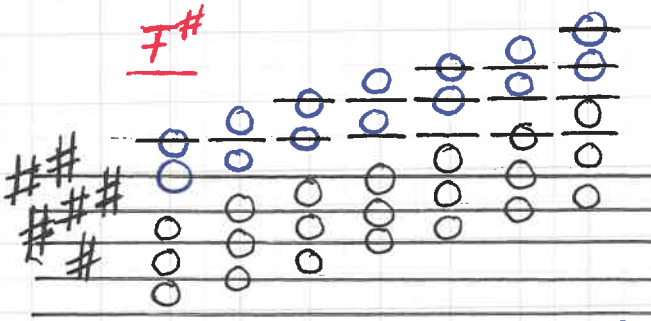
B $c^{\#}$ $d^{\#}$ E $F^{\#}$ $g^{\#}$ $a^{\#\circ}$

$g^{\#}$



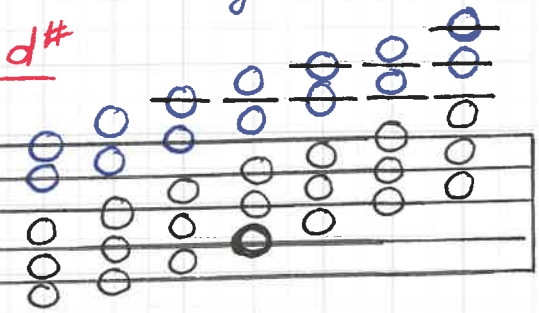
$g^{\#}$ $a^{\#\circ}$ B $c^{\#}$ $d^{\#}$ E $F^{\#}$

$F^{\#}$



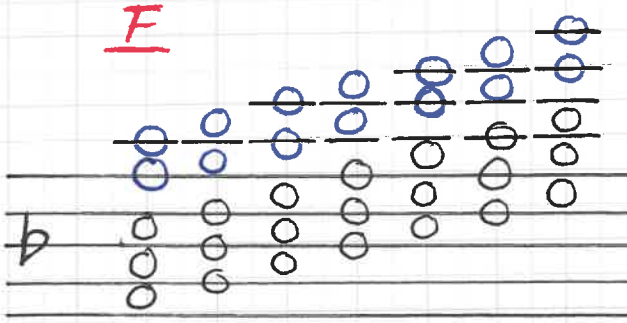
$F^{\#}$ $g^{\#}$ $a^{\#}$ B $C^{\#}$ $d^{\#}$ $e^{\#\circ}$

$d^{\#}$



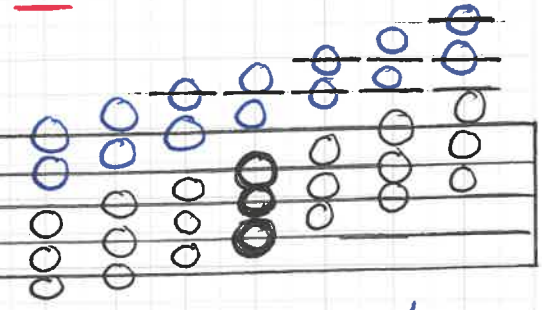
$d^{\#}$ $e^{\#\circ}$ $F^{\#}$ $g^{\#}$ $a^{\#}$ B $C^{\#}$

F



F g a $B^{\flat}$ C d e°

d

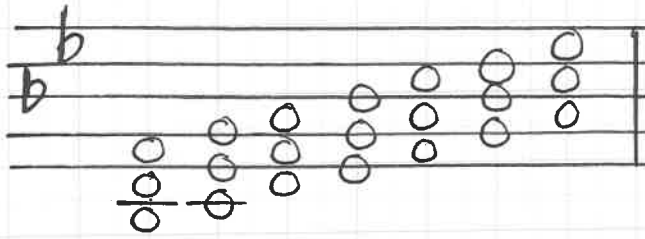


d e° F g a $B^{\flat}$ C

"Key-inherent" Triads for All Keys
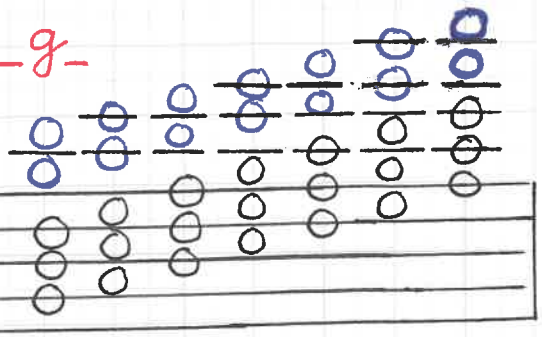
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$B^{\flat}$



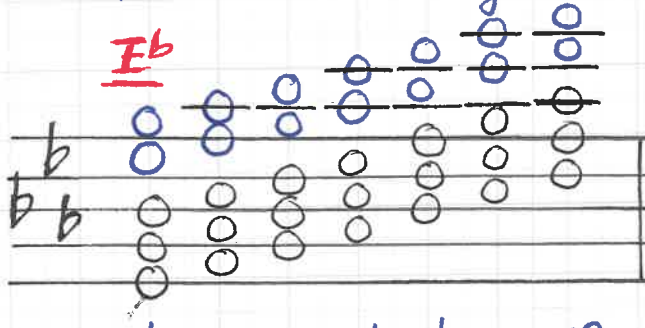
$B^{\flat}$ c d $E^{\flat}$ F g a°

-g-



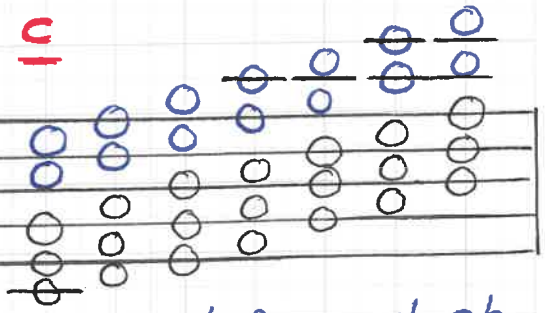
g a° $B^{\flat}$ c d $E^{\flat}$ F

$E^{\flat}$



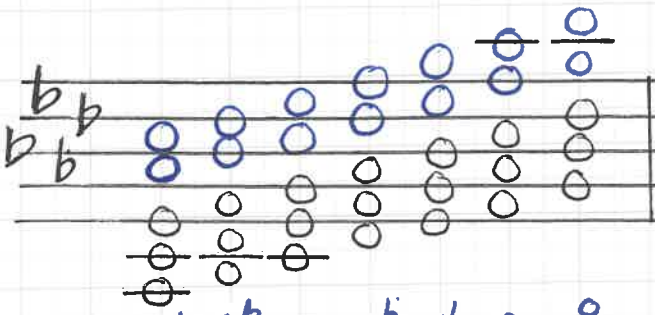
$E^{\flat}$ f g $A^{\flat}$ $B^{\flat}$ c d°

c



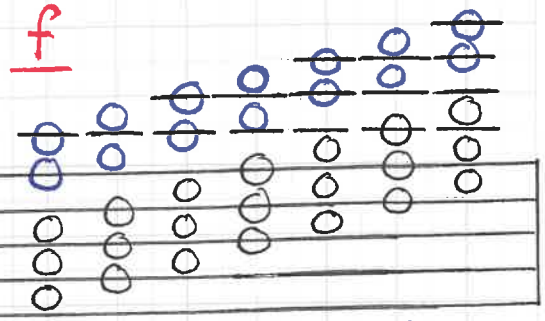
c d° $E^{\flat}$ f g $A^{\flat}$ $B^{\flat}$

$A^{\flat}$



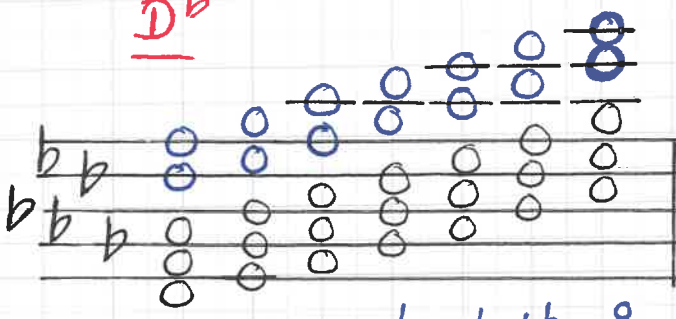
$A^{\flat}$ $b^{\flat}$ c $D^{\flat}$ $E^{\flat}$ f g°

f



f g° $A^{\flat}$ $b^{\flat}$ c $D^{\flat}$ $E^{\flat}$

$D^{\flat}$



$D^{\flat}$ $e^{\flat}$ f $G^{\flat}$ $A^{\flat}$ $b^{\flat}$ c°

$b^{\flat}$

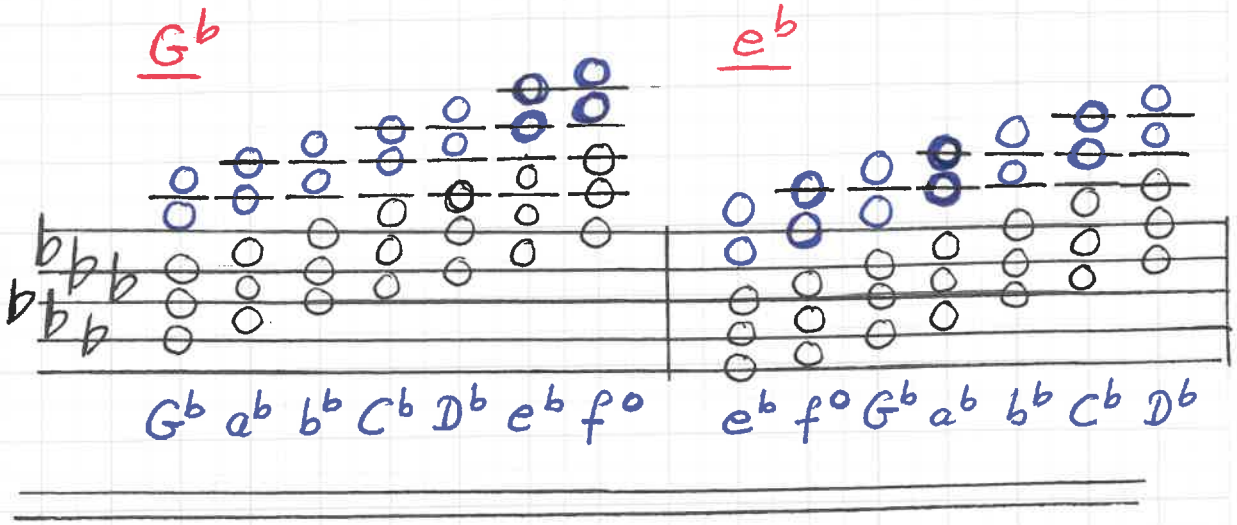


$b^{\flat}$ c° $D^{\flat}$ $e^{\flat}$ f $G^{\flat}$ $A^{\flat}$

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• "Key-inherent" Triads for All Keys

9/14/2024



⇒ **Summary**:

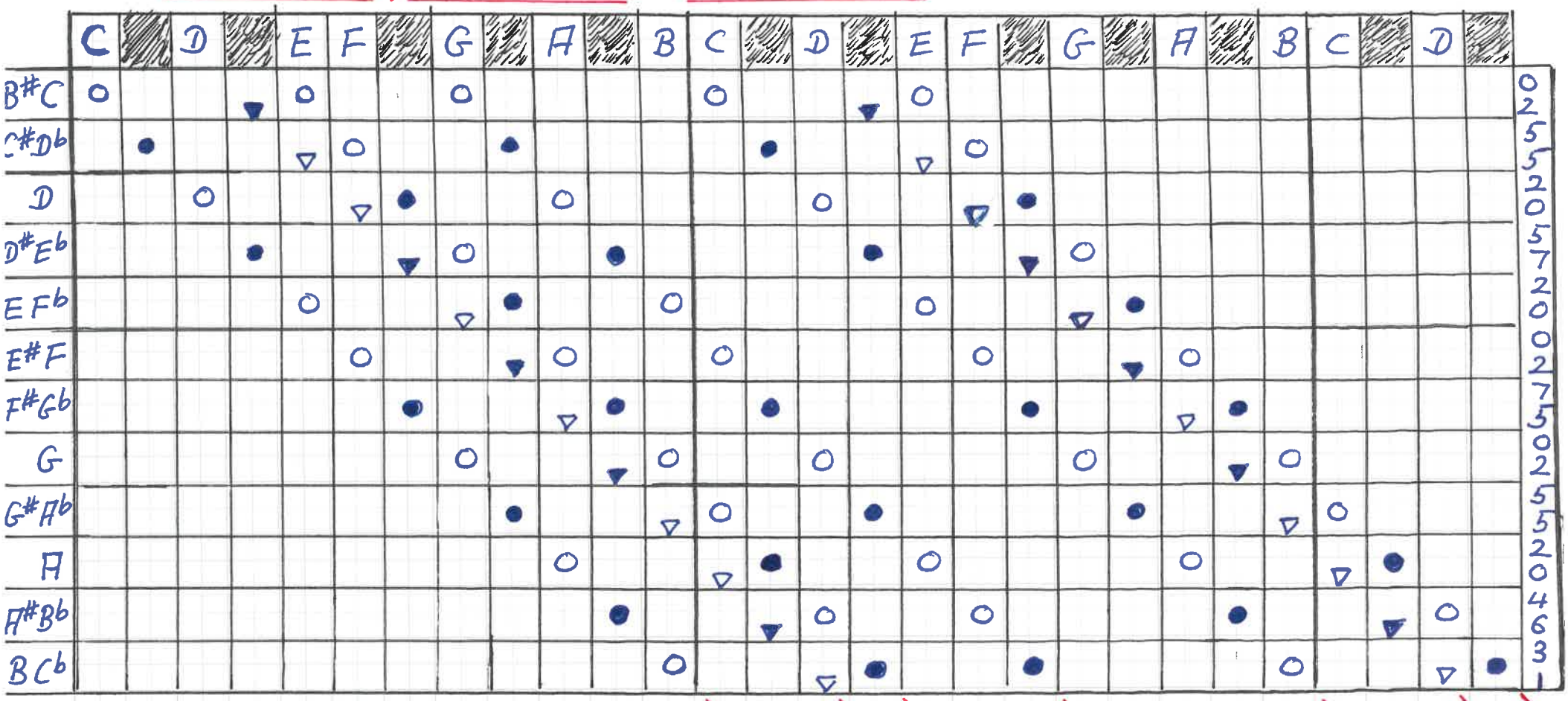
1) One must know/memorize the 7 "key-inherent" chord names of all keys, for major and minor keys. The 7 "key-inherent" chords are 3 major and 3 minor chords and 1 diminished chord. The triads are: C, G, D, A, E, B, $F^\#$; F, B^b, E^b, A^b, D^b, G^b; a, e, b, $f^\#$, $c^\#$, $g^\#$, $d^\#$; and d, g, c, f, b^b, e^b — using large letters for major triads, small letters for minor triads.

2) The 26 triads named in 1) — actually being only 24 triads since $D^b \hat{=} F^\#$ and $e^b \hat{=} d^\#$ — map to the 8 "shapes"/"patterns" for triads (9-13-2024), "white-black key patterns."

3) One must be able to find and play the 8 "patterns" quickly with the right and left hand, using a 1-3-5 and 5-3-1 fingering, respectively.

Triad Patterns for All Major and Minor Keys, Including Inversions

9/15/2024



major & minor triads

for inversions

▽, ▼ for m 3rd of minor chords

0	W	W	W	4	B	W	W
1	W	W	B	5	B	W	B
2	W	B	W	6	B	B	W
3	W	B	B	7	B	B	B

black-white patterns 0...7

→ Triad patterns are Listed in "chromatic order," moving up one half-tone at a time.

→ Each row shows patterns for the major and minor triads, using ▽, ▼ for minor triads.

→ The last column maps triads to patterns.

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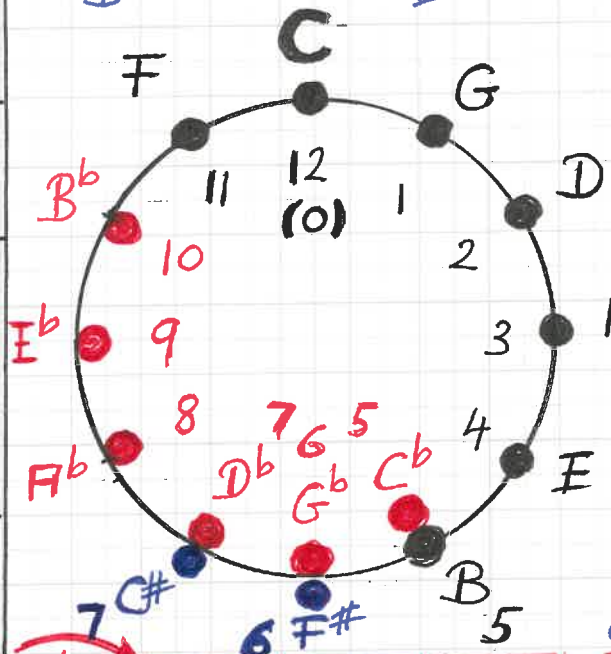
9/16/2024

Major/Minor Triads

MUST MEMORIZE THESE

12 (0)	C	E E^b	G
2	D	$F^\#$ F	A
4	E	$G^\#$ G	B
11	F	A A^b	C
1	G	B B^b	D
3	A	$C^\#$ C	E
5	B	$D^\#$ D	$F^\#$





Principle:

1) The three columns of the three tables all use the same ALPHABETICAL ORDER, i.e., CDEFGAB, EFGABCD, and GABCDEF.

2) The second column lists the M3rd and m3rd notes for major (top) and minor (bottom) triads.

3) The triads with indices 12(0), 1, ..., 11 are "practically" relevant triads.

4) Triad note "LETTERS HAVE ALPHA DISTANCE 2".

(#) 7

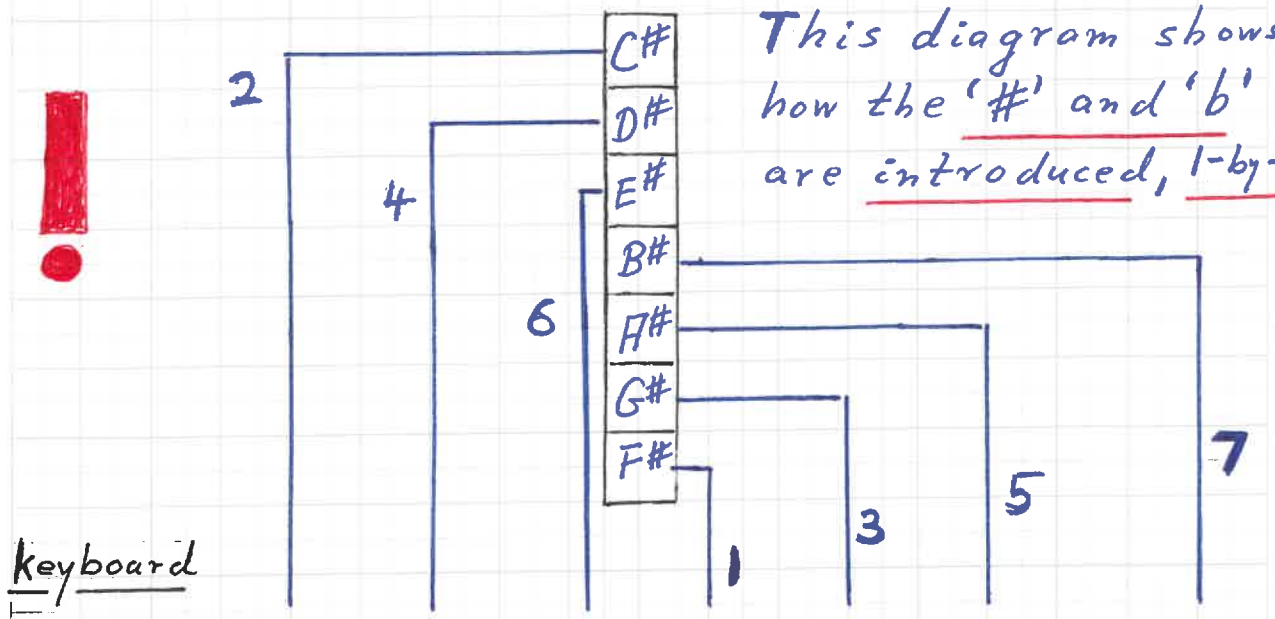
$C^\#$	$E^\#$ E	$G^\#$
$D^\#$	$F^{\#\#}$ $F^\#$	$A^\#$
$E^\#$	$G^{\#\#}$ $G^\#$	$B^\#$
$F^\#$	$A^\#$ A	$C^\#$
$G^\#$	$B^\#$ B	$D^\#$
$A^\#$	$C^{\#\#}$ $C^\#$	$E^\#$
$B^\#$	$D^{\#\#}$ $D^\#$	$F^{\#\#}$

6 7 (b)

5	C^b	E^b E^{bb}	G^b
7	D^b	F F^b	A^b
9	E^b	G G^b	B^b
	F^b	A^b A^{bb}	C^b
6	G^b	B^b B^{bb}	D^b
8	A^b	C C^b	E^b
10	B^b	D D^b	F

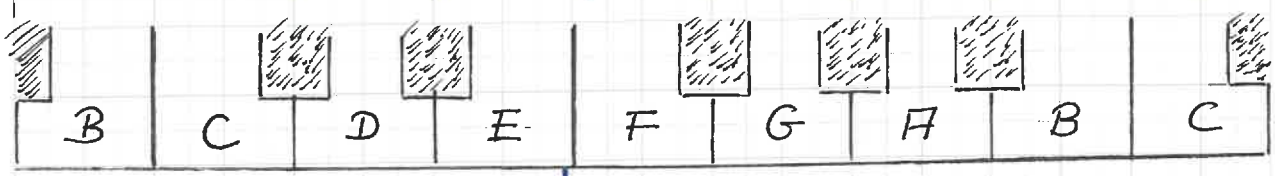
Introduction Sequences for '#' and 'b' for Major Keys

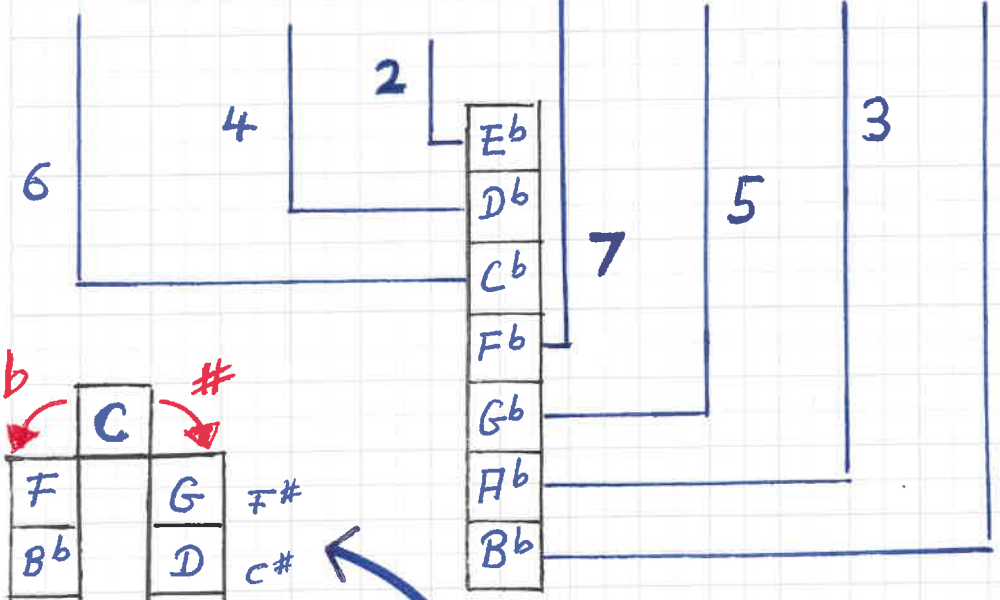
9/17/2024



This diagram shows how the '#' and 'b' are introduced, 1-by-1.

Keyboard







The circle of 5ths introduces '#' in the order $F^{\#}C^{\#}G^{\#}D^{\#}A^{\#}E^{\#}B^{\#}$ and 'b' in the order $B^{b}E^{b}A^{b}D^{b}G^{b}C^{b}F^{b}$.

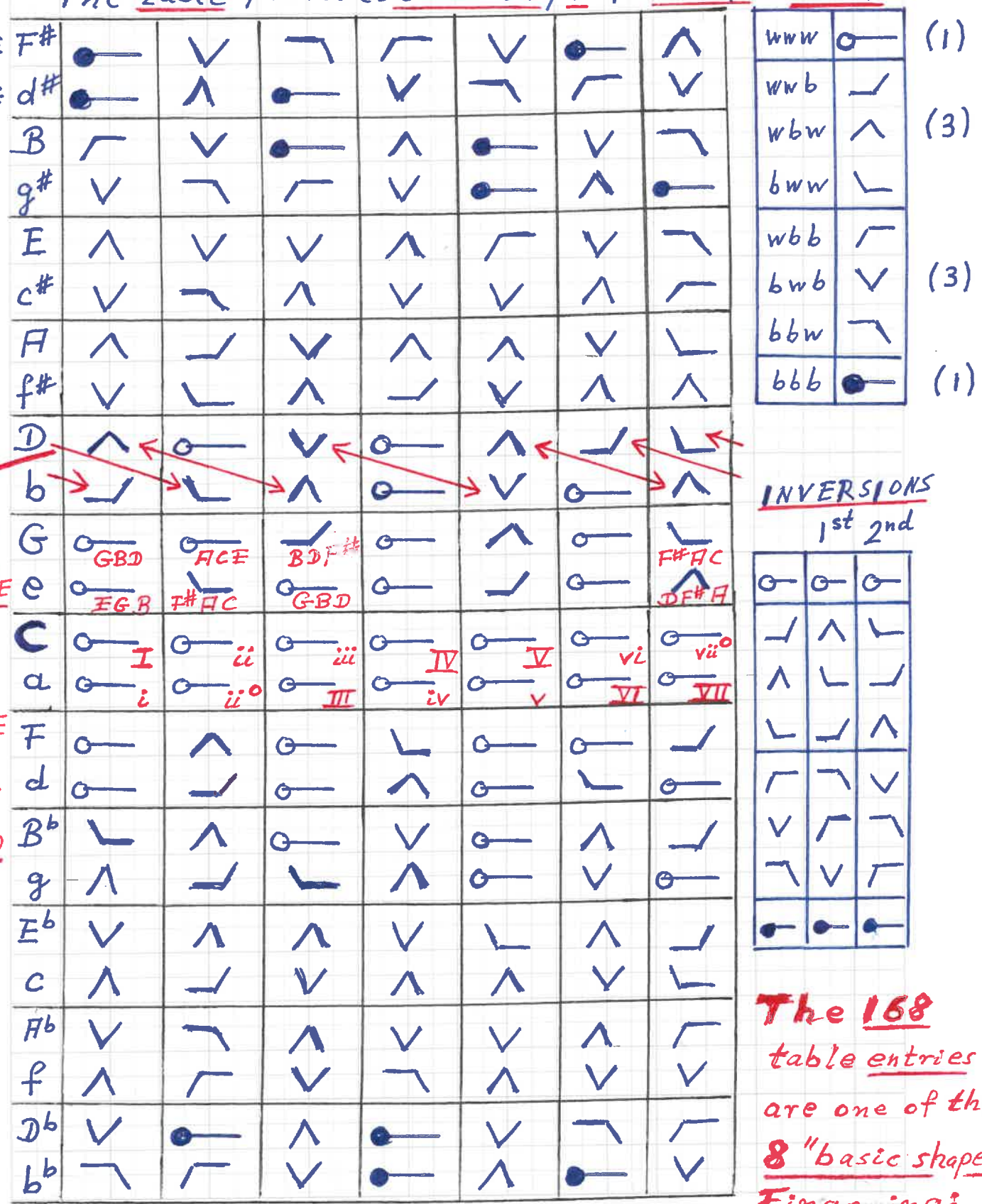
The order of introduction of '#' and 'b' is defined by the index sequence 1-2-3-4-5-6-7.

⇒ INTRODUCTION SEQUENCE(S) SHOULD BE MEMORIZED.

TRIAD "FINGERING SHAPES" FOR MAJOR & MINOR KEYS, WITH IMPLIED INVERSIONS — USING 8 WHITE-BLACK CODES

9/18/2024

The table provides triad shapes for 24 keys.

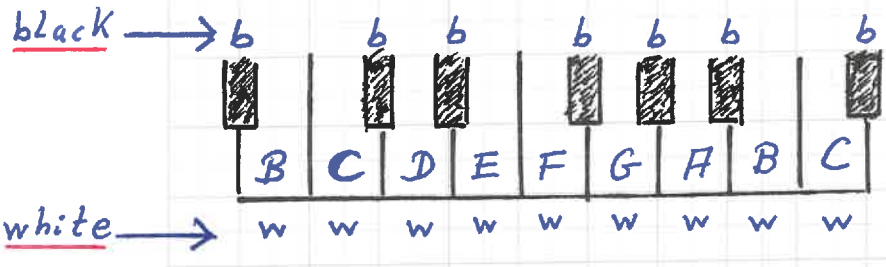


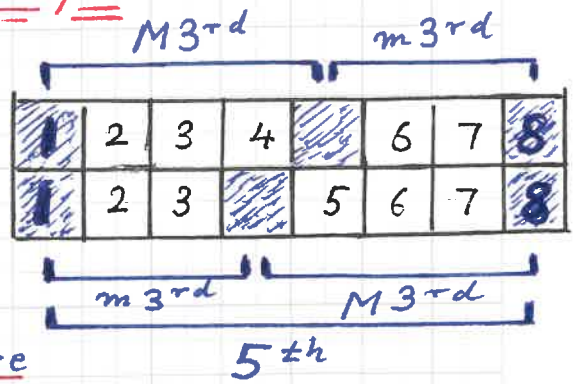
The 168 table entries are one of the 8 "basic shapes"

Fingering: 1-3-5, 5-3-1

• Triads Ordered Based on the Chromatic Scale — 12 Major and 12 Minor Keys

9/19/2024





	Triad	Code
1	C E Eb G	⊙—, ∧
2	Db F Fb Ab	∨, ∨
3	D F# F A	∧, ⊙—
4	Eb G Gb Bb	∨, ●
5	E G# G B	∧, ⊙—
6	F A Ab C	⊙—, ∧
7	F# A# A C#	●, ∨
7	Gb Bb Bbb Db	●, ∨
8	G B Bb D	⊙—, ∧
9	Ab C Cb Eb	∨, ∨
10	A C# C E	∧, ⊙—
11	Bb D Db F	∟, ⌐
12	B D# D F#	⌐, ∟

≙ [7 7]

Black-white (bw) codes for all triads:

www	⊙—	6x
wwb	⌐	1x
wbw	∧	6x
bww	∟	1x
wbb	⌐	1x
bwb	∨	6x
bbw	⌐	1x
bbb	●—	2x

Note. $F^b \hat{=} E$, $C^b \hat{=} B$, $B^{bb} \hat{=} A$

The left table lists the 12×2 = 24 triad "shapes" for all keys — using one of the 8 codes.

The figure above shows that all triads consist of either a major 3rd and a minor 3rd (M3rd m3rd) or a minor 3rd and a major 3rd (m3rd M3rd). The first and last notes of each triad define a 5th, and six half-tones lie between them.

• ONE MUST MEMORIZE AND BE ABLE TO "AUTOMATICALLY FIND AND PLAY" THESE 24 TRIADS — USING ONE OF THE 8 "BASIC SHAPES"

Two-note Patterns/Shapes —

9/21/2024

Chromatic Viewpoint



○ = white (w)
● = black (b)
key

n1 \ n2	D♭	D	E♭	E	F	G♭	G	A♭	A	B♭	B	C
C	○●	○○	○●	○○	○○	○●	○○	○●	○○	○●	○○	○○
D♭	////	●○	●●	●○	●○	●●	●○	●●	●○	●●	●○	●○
D	○●	////	○●	○○	○○	○●	○○	○●	○○	○●	○○	○○
E♭	●●	●○	////	●○	●○	●●	●○	●●	●○	●●	●○	●○
E	○●	○○	○●	////	○○	○●	○○	○●	○○	○●	○○	○○
F	○●	○○	○●	○○	////	○●	○○	○●	○○	○●	○○	○○
G♭	●●	●●	●●	●○	●○	////	●○	●●	●○	●●	●○	●○
G	○●	○○	○●	○○	○○	○●	////	○●	○○	○●	○○	○○
A♭	●●	●○	●●	●○	●○	●●	●○	////	●○	●●	●○	●○
A	○●	○○	○●	○○	○○	○●	○○	○●	////	○●	○○	○○
B♭	●●	●○	●●	●○	●○	●●	●○	●●	●○	////	●○	●○
B	○●	○○	○●	○○	○○	○●	○○	○●	○○	○●	////	○○

6th
5th
4th
M3rd

M3rd 4th 5th 6th

	2♭	2nd	3♭	3rd	4th	5♭	5th	6♭	6th	7♭	7th	8th
C	○●	○○	○●	○○	○○	○●	○○	○●	○○	○●	○○	○○
D♭	●○	●●	●○	●○	●●	●○	●●	●○	●●	●○	●○	●●
D	○●	○○	○○	○●	○○	○●	○○	○●	○○	○○	○●	○○
E♭	●○	●○	●●	●○	●●	●○	●●	●○	●○	●●	●○	●●
E	○○	○●	○○	○●	○○	○●	○○	○○	○●	○○	○●	○○
F	○●	○○	○●	○○	○●	○○	○○	○●	○○	○●	○○	○○
G♭	●○	●●	●○	●●	●○	●○	●●	●○	●●	●○	●○	●●
G	○●	○○	○●	○○	○○	○●	○○	○●	○○	○○	○●	○○
A♭	●○	●●	●○	●○	●●	●○	●●	●○	●○	●●	●○	●●
A	○●	○○	○○	○●	○○	○●	○○	○○	○●	○○	○●	○○
B♭	●○	●○	●●	●○	●●	●○	●●	●○	●○	●●	●○	●●
B	○○	○●	○○	○●	○○	○○	○●	○○	○●	○○	○●	○○

→ The top table lists the patterns for all note pairs n1 n2, "n1 being left of n2."

→ The left table lists the 12 patterns for "2♭, 2nd, 3♭, 3rd, ..., 8th" for the 12 notes of the chromatic scale.

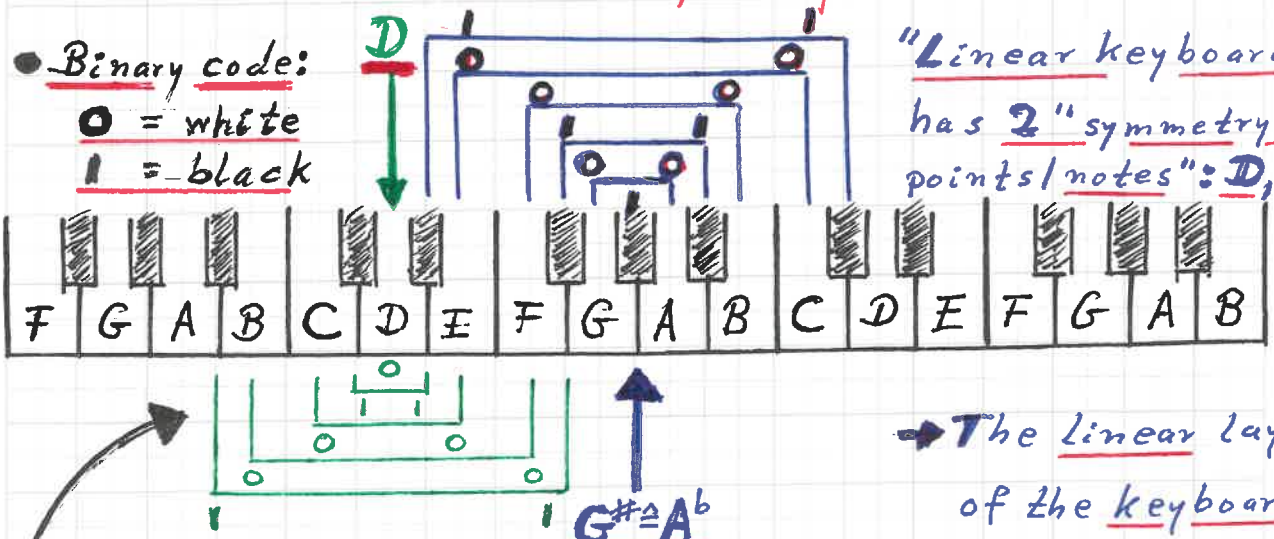
→ MEMORIZE PATTERN

Shapes/patterns for m3rd, M3rd, 4th, 5th, 6th.

Chords and Keyboard Symmetry =

9/22/2024

- Binary code:
  - 0 = white
  - 1 = black



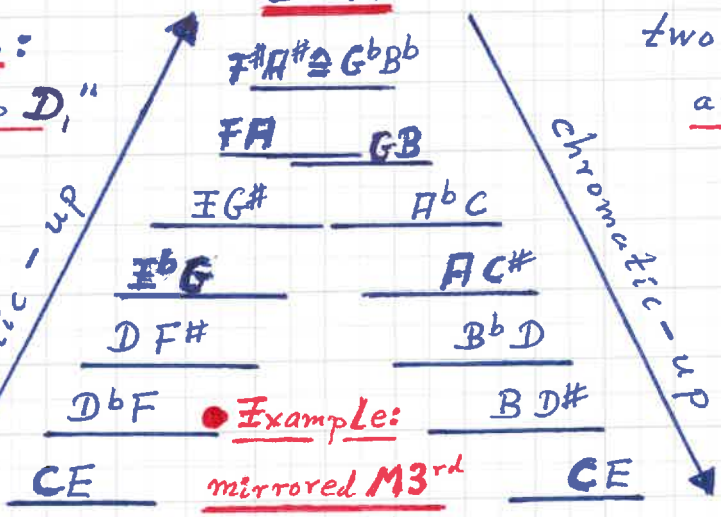
"Linear keyboard" has 2 "symmetry points/notes": D, G#/A♭.

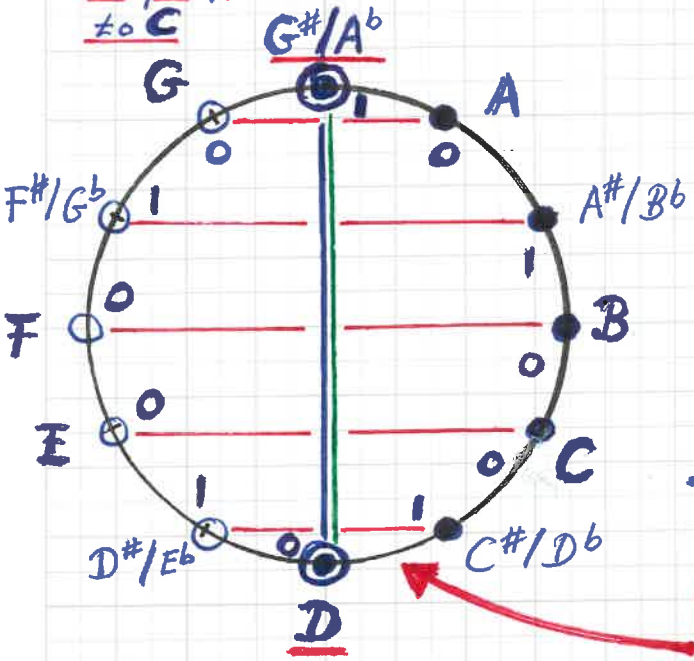
→ The linear layout of the keyboard has two "symmetry keys," at the notes D and G#/A♭. By arranging the notes in a circular chromatic Layout, these two notes define the "symmetry axis" from D to G#/A♭. By drawing this axis vertically, "corresponding reflected mirror images" are the note pairs connected by horizontal edges in the left figure.

→ From note n1 to note n2:
k steps ⇒ from n2 to n1: (12-k) step

Observation:

- "Relative to D,"
  4 half-tone steps to E from C
- "Relative to G#/A♭,"
  8 half-tone steps from E to C





12-tone "chromatic circle" with "symmetry axis from D to G#/A♭. "Symmetry AXIS"!

- CAN ONE USE THIS SYMMETRY, THE "MODULO-12 NATURE" OF SCALES & BINARY CODES FOR CHORDS

peppersnake.com

• Sequence/Order of '#' and 'b' "Insertion" into Scales

9/23/2024

➔ The two tables below summarize the "insertion" of '#' and 'b' notes into major scales, using the circle of 5th to define the order of "insertion."

C	O^{C}	O	O	O	O	O^{G}	O	O^{B}	O^{C}	0#
G	O^{G}	O	O	O	O	O	$I^{F\#}$	O^{G}	1#
D	O^{D}	O	I	O	O	O	$I^{C\#}$	O^{D}	2#
A	O^{A}	O	I	O	O	I	$I^{G\#}$	O	3#
E	O^{E}	I	I	O	O	I	$I^{D\#}$	O	4#
B	O^{B}	I	I	O	I	I	$I^{A\#}$	O	5#
F#	$I^{F\#}$	I	I	O	I	I	$O^{E\#}$	$I^{F\#}$	6#
C#	$I^{C\#}$	I	$O^{E\#}$	I	$I^{F\#}$	I	I	$O^{B\#}$	$I^{C\#}$	7#

Black-white patterns for '#' (O = white, I = black).

C	O^{C}	O	O	O^{F}	O	O	O^{B}	O^{C}	0b
F	O^{F}	O	O	$I^{B\flat}$	O	O	O^{E}	O^{F}	1b
B♭	$I^{B\flat}$	O	O	$I^{E\flat}$	O	O	O^{A}	$I^{B\flat}$	2b
E♭	$I^{E\flat}$	O	O	$I^{A\flat}$	$I^{B\flat}$	O	O^{D}	$I^{E\flat}$	3b
A♭	$I^{A\flat}$	I	O	$I^{D\flat}$	I	O	O^{G}	$I^{A\flat}$	4b
D♭	$I^{D\flat}$	I	O	$I^{G\flat}$	I	I	O^{C}	$I^{D\flat}$	5b
G♭	$I^{G\flat}$	I	I	$O^{C\flat}$	I	I	O^{F}	$I^{G\flat}$	6b
C♭	$O^{C\flat}$	I	I	$O^{F\flat}$	I	I	$I^{B\flat}$	$O^{C\flat}$	7b

Black-white patterns for 'b' (O = white, I = black).

EQUIVALENT

Note. The "insertion" of $E^{\#}$, $B^{\#}$, $C^{\flat}$ and $F^{\flat}$ DO NOT lead to the introduction of BLACK keys — since $E^{\#} \hat{=} F$, $B^{\#} \hat{=} C$, $C^{\flat} \hat{=} B$ and $F^{\flat} \hat{=} E$.

➔ One must memorize the two "insertion sequences" $F^{\#}\,C^{\#}\,G^{\#}\,D^{\#}\,A^{\#}\,E^{\#}\,B^{\#}$ and $B^{\flat}\,E^{\flat}\,A^{\flat}\,D^{\flat}\,G^{\flat}\,C^{\flat}\,F^{\flat}$ — and the corresponding black-white patterns and changes on the keyboard.

➔ The tables indicate the "equivalence" of certain keys: $B \hat{=} C^{\flat}$, $F^{\#} \hat{=} G^{\flat}$ and $C^{\#} \hat{=} D^{\flat}$.

Since these keys/scales are "equivalent," the corresponding black-white key patterns are the same.

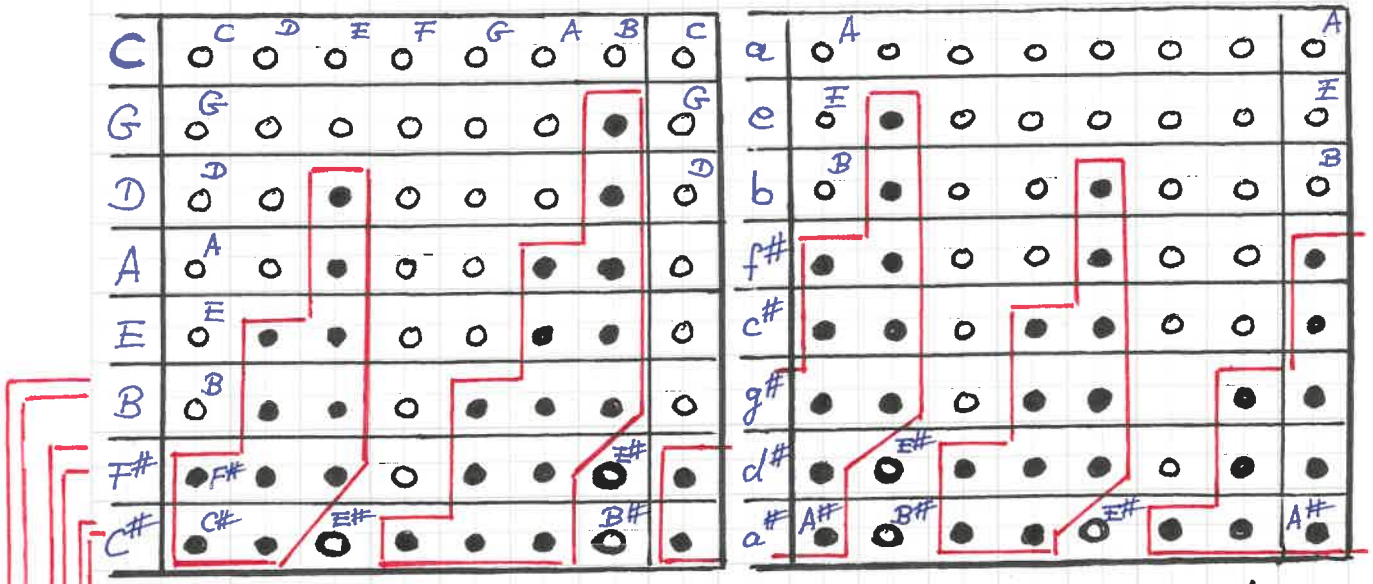
➔ The patterns for B, $F^{\#}$ and $C^{\#}$ ($C^{\flat}$, $G^{\flat}$ and $D^{\flat}$) major include all available black keys.

➔ Key patterns for minor keys are defined by their relative major keys.

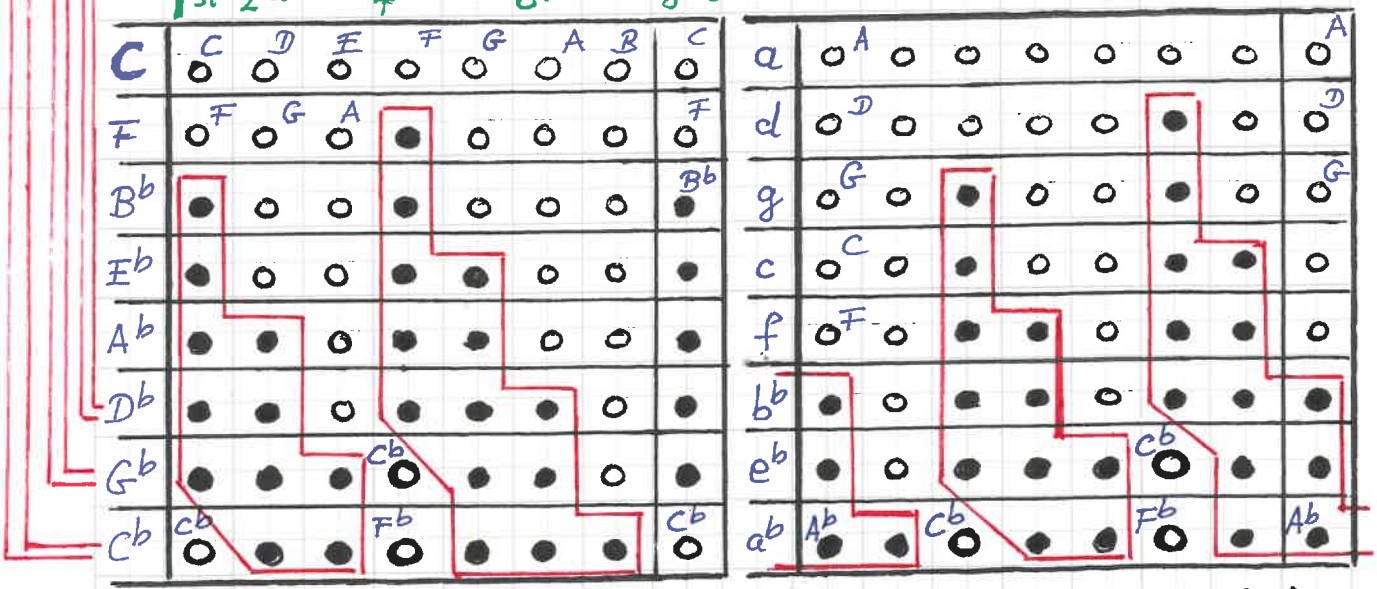
SEQUENCE/ORDER OF '#' AND 'b' "INSERTIONS" INTO SCALES

9/24/2024

→ The tables summarize "insertions" for major and minor scales:



Major and relative natural minor scales — '#'.



EQUIVALENT

Major and relative natural minor scales — 'b'.

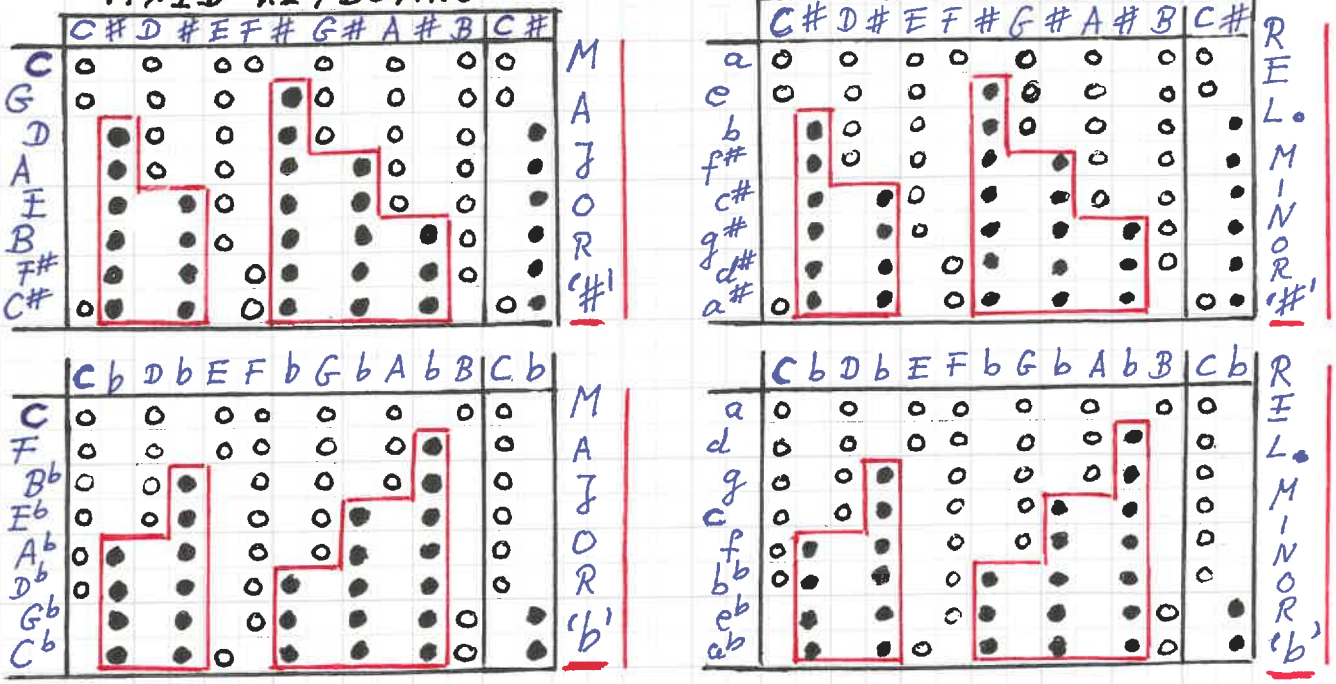
→ The sequences/orders of "insertions" of '#' and 'b' AND THE RESULTING SETS OF BLACK KEYS 'o' to be used on the piano keyboard are highlighted by showing the enclosing polygons (red).

→ **Note.** Since $E^{\#} \hat{=} F$, $B^{\#} \hat{=} C$, $C^{b} \hat{=} B$ and $F^{b} \hat{=} E$, are played with the corresponding white keys 'o'.

SEQUENCE/ORDER OF '#' AND 'b' "INSERTIONS" ON KEYBOARD

9/25/2024

"FIXED KEYBOARD"



→ The tables above illustrate the sequences/orders of "inserting" black keys (●) when using the circle-of-5th system for "inserting" '#' and 'b' into major keys and their relative, natural minor keys.

→ Two patterns stand out, shown via a red polygon(s) enclosing the "inserted" black keys:

1) When inserting '#' according to the circle-of-5th's, the black-key "insertion" order is $F^{\#} - C^{\#} - G^{\#} - D^{\#} - A^{\#}$. The notes $E^{\#} \hat{=} F$ and $B^{\#} \hat{=} C$ have white keys on the keyboard.

2) When "inserting" 'b' according to the circle-of-5th's, the black-key "insertion" order is $B^{b} - E^{b} - A^{b} - D^{b} - G^{b}$. The notes $C^{b} \hat{=} B$ and $F^{b} \hat{=} E$ have white keys on the keyboard.

→ One must only memorize these two "insertion" orders — for '#' and 'b'.

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• Key-inherent Triads Viewed as Variations of 7 Basic Triads

9/26/2024

C		G			D			A			E			B			F#			C#			a			e			b...
I	CEG				#			#		#	#		#	#		#	#	#	#	#	#	#	III						f#...
ii	DFA		#			#			#		#	#		#	#	#	#	#	#	#	#	#	iv				#		c#...
iii	EGB							#			#			#			#	#		#	#	#	v						g#...
IV	FAC	#			#		#		#		#	#		#	#	#	#	#	#	#	#	#	VI				#		d#...
V	GBD							#			#		#	#		#	#		#	#	#	#	VII						a#...
vi	ACE					#			#			#		#	#		#	#	#	#	#	#	i						(left
vii°	BDF			#			#			#		#	#		#	#		#	#	#	#	#	ii°					#	table!
		0#			3#			6#			9#			12#			15#			18#			21#			0#			3#	

numbering for C major

E# ≙ F B# ≙ C

numbering for a minor

The 7 basic triads CEG, DFA, ..., BDF — and their modifications via '#'.

Relative minor triads.

C		F			B♭			E♭			A♭			D♭			G♭			C♭			a			d			g...
I	CEG					b			b			b			b	b	b	b	b	b	b	b	b	III						c...
ii	DFA									b	b		b	b		b	b		b	b	b	b	iv						f...
iii	EGB			b	b		b	b		b	b		b	b	b	b	b	b	b	b	b	b	v					b		b♭...
IV	FAC								b			b			b			b	b	b	b	b	VI						e♭...
V	GBD		b			b			b			b	b	b	b	b	b	b	b	b	b	b	VII				b			a♭...
vi	ACE							b	b		b	b		b	b		b	b	b	b	b	b	i							(left
vii°	BDF	b			b			b			b	b		b	b		b	b		b	b	b	ii°			b				table!)
		0b			3b			6b			9b			12b			15b			18b			21b			0b			3b	

C♭ ≙ B F♭ ≙ E

The 7 basic triads modified via 'b'.

Relative minor triads.

→ One must only MEMORIZE the 7 BASIC TRIADS — their alphabetical representation and Location on the keyboard — and their MODIFICATION by '#', 'b'.

SCALES, CHORDS & INVERSIONS: GOOD METHODS FOR MEMORIZATION

9/27/2024

→ Simple and efficient memorization methods are necessary for quickly recalling notes and keyboard fingerings for playing.
- SCALES of all major and minor keys;
- TRIADS, 7th CHORDS and their INVERSIONS;
- KEY-INHERENT TRIADS for all keys.

→ ONE MUST KNOW THE SEQUENCES/ORDERS THAT DEFINE THE INTRODUCTION/ADDITION OF '#' AND 'b' BASED ON THE CIRCLE-OF-5th.

The two sequences/orders are:

#: $F^{\#}$, $C^{\#}F^{\#}$, $C^{\#}F^{\#}G^{\#}$, $C^{\#}D^{\#}F^{\#}G^{\#}$, $C^{\#}D^{\#}F^{\#}G^{\#}A^{\#}$, $C^{\#}D^{\#}E^{\#}$ (≙F) $F^{\#}G^{\#}A^{\#}$, $C^{\#}D^{\#}E^{\#}$ (≙F) $F^{\#}G^{\#}A^{\#}B^{\#}$ (≙C).

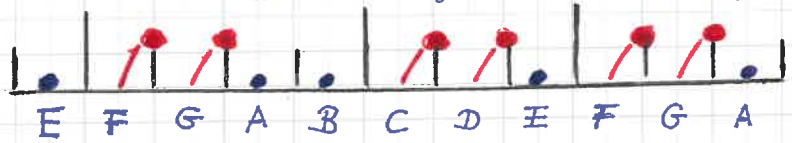
b: B^{b}, $E^{b}B^{b}$, $E^{b}A^{b}B^{b}$, $D^{b}E^{b}A^{b}B^{b}$, $D^{b}E^{b}G^{b}A^{b}B^{b}$, $D^{b}E^{b}G^{b}A^{b}B^{b}C^{b}$ (≙B), $D^{b}E^{b}F^{b}$ (≙E) $G^{b}A^{b}B^{b}C^{b}$ (≙B) (C^{b} (≙B) $D^{b}E^{b}G^{b}A^{b}B^{b}$, C^{b} (≙B) $D^{b}E^{b}F^{b}$ (≙E) $G^{b}A^{b}B^{b}$).

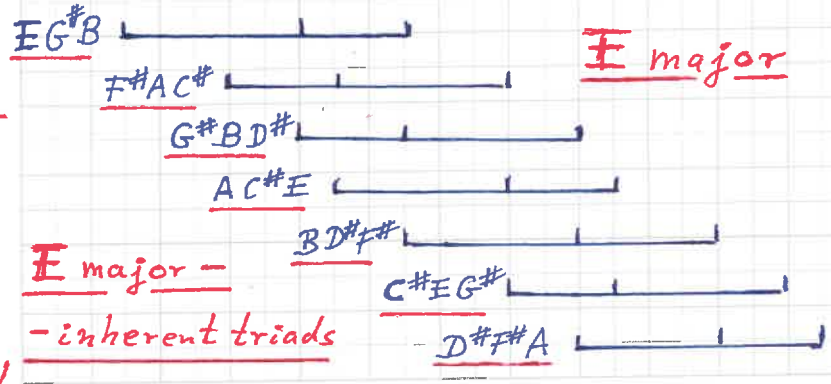
•Playing all SCALES ←

These two sequences/orders for '#' and 'b' use ALPHABETICAL ORDER, to reflect the corresponding left-to-right keyboard locations.

•Principle for Playing all 7 Key-inherent Triads for all Keys

- with Inversions implied





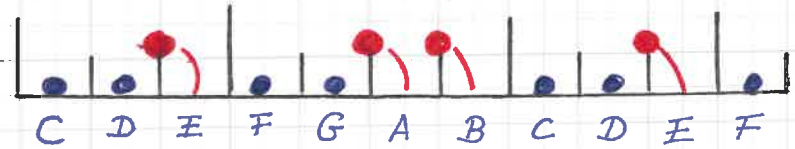
E major

E major-inherent triads

→ The left figure shows an example for the 7 triads being the E major-inherent triads. The 7 chords are based on the 7 basic chords EGB, FAC, ..., DFA with properly added '#'.

• SCALES, CHORDS & INVERSIONS: GOOD METHODS FOR MEMORIZATION

9/27/2024



→ The Left figure shows another example for the 7 triads being the c-minor-inherent triads. The 7 triads are based on the 7 basic triads CEG, DFA, ..., BDF with properly added 'b'.

C minor

CDE^b

DFA^b

E^bGB^b

FA^bC

GB^bD

A^bCE^b

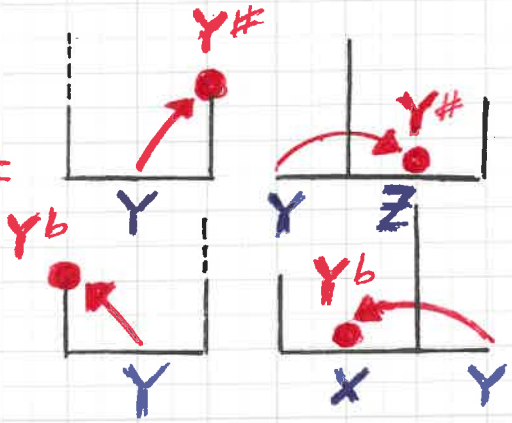
B^bDF

C minor-inherent triads



→ The left figure shows an "extreme" example for the definition of the 7 triads being the C# major-inherent triads. Again, these triads are based on the 7 basic triads and – with proper use of all '#' – become $C^\#E^\#G^\#$, $D^\#F^\#A^\#$, $E^\#G^\#B^\#$, $F^\#A^\#C^\#$, $G^\#B^\#D^\#$, $A^\#C^\#E^\#$, $B^\#D^\#F^\#$.

• Rules for Playing all Scales



→ The four left figures explain the representation of the effects (on the keyboard) when MOVING TO THE RIGHT as a consequence of changing a note Y to $Y^\#$ AND MOVING TO THE LEFT as a consequence of changing a note Y to Y^b. The two right figures illustrate the cases of $Y^\# \hat{=} Z$ (white key) and $Y^b \hat{=} X$ (white key).

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